

## METHOD AND APPARATUS FOR PROVIDING PARALLEL OPTOELECTRONIC COMMUNICATION WITH AN ELECTRONIC DEVICE

### ABSTRACT OF THE DISCLOSURE

An optoelectronic assembly for an electronic system includes a support electronic chip set configured for at least one of providing multiplexing, demultiplexing, coding, decoding and optoelectronic transducer driving and receive functions. A first substrate having a first surface and an opposite second surface is in communication with the support electronic chip set via the first surface while a second substrate is in communication with the second surface of the first substrate. The second substrate is configured for mounting at least one of data processing, data switching and data storage chips. An optoelectronic transducer is in signal communication with the support electronic chip set and an optical fiber array is aligned at a first end with the optoelectronic transducer and with an optical signaling medium at a second end. An electrical signal from the support electronic chip set is communicated to the optoelectronic transducer via an electrical signaling medium, and the support electronic chip set and the optoelectronic transducer share a common thermal path for cooling.